

Figure 1

### LF native DNA sequence

Coding sequence: 1-2430

Signal peptide: 1-99

Mature peptide: 100-2430

LF4 peptide: 124-855

Figure 1 Continued

Amino acid sequence for LF mature peptide (missing the signal sequence)

1 agghgdvgmh vkekekknkde nkrkdeernk tqeehlkeim khivkievkg eeavkkeaae  
61 kllekvpdsv lemykaiggk iyivdgdtk hislealsed kkkikdiygk dallhehyvy  
121 akegyepvlv iqssedyven tekalnvyye igkilsrdil skinqpyqkf ldvlntikna  
181 sdsdqgqdlf tnqlkehptd fsvefleqns nevgevfaka fayyiepqhr dvlqlyapea  
241 fnymdkfneq einlsleelk dqrmlsryek wekikqhyqh wsdslseegr gllkklqipi  
301 epkkddihs lsqseekellk riqidssdf lsteekeflkk lqidirdslls eeekellnri  
361 qvdssnplse kekeflkk ldiqpyding rlqdtggid spsinldvrk qykrdiqnid  
421 allhqsigst lynkiylyen mninnltatl gadlvdstdn tkinrgifne fkknfkysis  
481 snymividne rpaldnerlk wriqlspdtr agylengkli lqrnigleik dvqiikqsek  
541 eyiridakvv pkskidtkiq eaqlningew nkalglpkyt klitfnvhnr yasnivesay  
601 lilnewknni qsdlikkvtn ylvdgngrvf ftditlpnia eqythqdeiy eqvhskglyv  
661 pesrsillhg pskgvelrnd segfihefgh avddyagyll dknqsdlvtn skkfidiqfke  
721 egsnltsygr tneaeffaea frlmhstdha erlkvqknap ktfqfindqi kfiins

Amino acid sequence for LF4 (amino acids 9-252 from above sequence)

9 mh vkekekknkde nkrkdeernk tqeehlkeim khivkievkg eeavkkeaae  
61 kllekvpdsv lemykaiggk iyivdgdtk hislealsed kkkikdiygk dallhehyvy  
121 akegyepvlv iqssedyven tekalnvyye igkilsrdil skinqpyqkf ldvlntikna  
181 sdsdqgqdlf tnqlkehptd fsvefleqns nevgevfaka fayyiepqhr dvlqlyapea  
241 fnymdkfneq ei

Figure 2

PA native DNA sequence

ORIGIN

1 atgaaaaaaac gaaaagtgtt aataccatta atggcattgt ctacgatatt agtttcaagc  
61 acaggttaatt tagagggtat tcagggcagaa gttaaacagg agaaccgggtt attaaatgaa  
121 tcagaatcaa gttcccaggg gttacttagga tactattta gtgatttgaa ttttcaagca  
181 cccatgggtgg ttaccttc tactacaggg gatttatcta ttcttagttc tgagtttagaa  
241 aatattccat cgaaaaacca atatttcaa tctgcttattt ggtcaggatt tatcaaagtt  
301 aagaagagtg atgaatatac atttgctact tccgctgata atoatgtAAC aatgtggta  
361 gatgaccaag aagtgatcaa taaagcttct aattctaaca aaatcagatt agaaaaaagga  
421 agattatatac aaataaaaaat tcaatatcaa cgagaaaatc ctactgaaaa aggattggat  
481 ttcaagttgt actggaccga ttctcaaaat aaaaaagaag tgatttctag tgataactta  
541 caattgccag aattaaaaca aaaatctcg aactcaagaa aaaagcgaag tacaagtgc  
601 ggacctacgg ttccagaccg tgacaatgtt ggaatccctg attcattttaga ggtagaagga  
661 tatacgggtt atgtcaaaaa taaaagaact ttctttcac catggatttc taatattcat  
721 gaaaaagaaag gattaacca atataaatca tctcctgaaa aatggagcac ggcttctgat  
781 ccgtacagtg atttcgaaaa ggttacagga cggattgata agaatgtatc accagaggca  
841 agacaccccc ttgtggcagc ttatccgatt gtacatgtatc atatggagaa tattattctc  
901 tcaaaaaatg aggatcaatc cacacagaat actgataatg aaacgagaac aataagtaaa  
961 aataacttcta caagtaggac acatactatgt gaagtagatc gaaatgcaga agtgcacg  
1021 tcgttcttgc atattgggtt gagtttatct gcaggattt gtaatttgcggaa ttcaagttacg  
1081 gtcgcaatttgc atcatttact atctcttagca gggggaaagaa cttgggcttgc aacaatgggt  
1141 ttaaaataccg ctgatacagc aagattaaat gccaatattt gatatgtaaa tactgggacg  
1201 gctccaatct acaacgtgtt accaacgact tcgttagtgt tagggaaaaaa tcaaaacttc  
1261 gcgacaattt aagctaagga aaaccaattt agtcaatatac ttgcacccaa taattattt  
1321 ctttctaaaaa acttggcgcc aatcgatca aatgcacaag acgatttcag ttctactcca  
1381 attacaatga attacaatca atttcttgcg ttagggaaaaaa cgaaaacaattt aagatttagat  
1441 acggatcaag tatatggaa tatagcaaca tacaattttt gaaatggaaag agtgagggtg  
1501 gatacaggct cgaactggag tgaagtgtt ccgcaattt aagaaacaac tgcacgtatc  
1561 atttttaatg gaaaagattt aaatctggta gaaaggcgga tagcggcggt taatccatgt  
1621 gatccatttgc aaacgactaa accggatattt acattttttt aagccctttaa aatagcattt  
1681 ggatttaacg aaccgaatgg aaacttacaa tatcaaggaa aagacataac cgaatttgat  
1741 tttaatttgc atcaacaaac atctcaaaat atcaagaatc agtttgcggaa attaaacgc  
1801 actaacatataactgtattt agataaaaatc aaattttatg caaaaaatgaa tattttatata  
1861 agagataaaac gttttcattt tgatagaaat aacatagcag ttggggcgga tgagtca  
1921 gttaaggagg ctcatagaga agtaattttt tcgtcaacag agggattttt gttttatattt  
1981 gataaggata taagaaaaat attatcggt tatattgtt aaatttgcggaa tactgaaggg  
2041 cttaaagaag ttataatgcgat cagatatttgcgtt atgttgcataa tttcttagttt acggcaagat  
2101 ggaaaaacat ttatagattt taaaaatattt aatgataat taccgttata tataagtaat  
2161 cccaaattata aggttaatgtt atatgcgtt actaaagaaa acactattat taatccatgt  
2221 gagaatgggg atactgtac caacggatc aagaaaattt taatctttc taaaaaaggc  
2281 tatgagatag gataa

Coding sequence: 1-2295

Signal peptide: 1-87

Mature peptide: 88-2295

pCPA: 610-2295

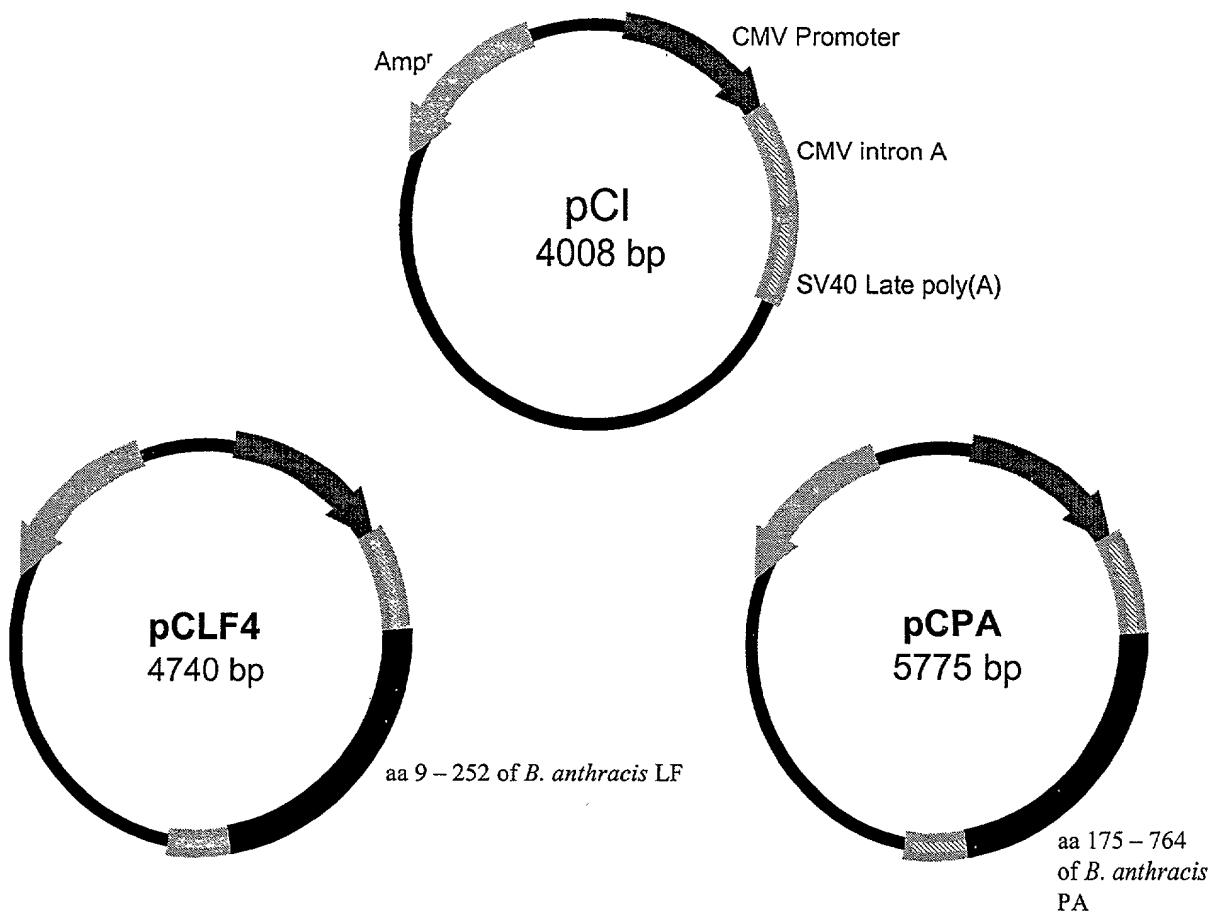
Figure 2 continued

Amino acid sequence for PA mature peptide (missing the signal sequence)

1 evkqenrln esesssqll gyyfsdlnfq apmvvtssst gdlsipssel enipsenqyf  
61 qsaiwsgfik vkksdeytfa tsadnhvtmw vddqevinka snsnskirlek grlyqikiqy  
121 qrenptekgl dfklywtdsq nkkevissdn lqlpelkqks snsrrkrsts agptvpdrdn  
181 dgipdsleve gytvdvknkr tflspwisni hekkgltkyk sspekwstas dpysdfekvt  
241 gridknvspe arhplvaayp ivhvdmnenii lsknedqstq ntdsetrtis kntstsrht  
301 sevhgnaevh asffdiggsv sagfsnsnss tvaidhslll agertwaetm glntadtarl  
361 naniryvntg tapiynvplt tslvlgnqt latikakenq lsqilapnn ypsknlapia  
421 lnaqddfsst pitmnynqfl elektkqlrl dtdqvgnia tynfengrvr vdtgsnwsev  
481 lpqiqettar iifngkdlnl verriaavnp sdplettkpd mtlkealkia fgnepngnl  
541 qyqgkdlitef dfnfdqqtsg niknqlaeln atniytvldk iklnakmmil irdkrfhydr  
601 nniavgades vvkeahrevi nsstegeillln idkdirkils gyiveiedte glkevindry  
661 dmlnisslrq dgktfidfkk yndklplyis npnykvnyva vtkentiinp sengdtstng  
721 ikkilifskk gyeig

Amino acid sequence for pCPA (amino acids 175-735 from above sequence)

175 vpdrdn  
181 dgipdsleve gytvdvknkr tflspwisni hekkgltkyk sspekwstas dpysdfekvt  
241 gridknvspe arhplvaayp ivhvdmnenii lsknedqstq ntdsetrtis kntstsrht  
301 sevhgnaevh asffdiggsv sagfsnsnss tvaidhslll agertwaetm glntadtarl  
361 naniryvntg tapiynvplt tslvlgnqt latikakenq lsqilapnn ypsknlapia  
421 lnaqddfsst pitmnynqfl elektkqlrl dtdqvgnia tynfengrvr vdtgsnwsev  
481 lpqiqettar iifngkdlnl verriaavnp sdplettkpd mtlkealkia fgnepngnl  
541 qyqgkdlitef dfnfdqqtsg niknqlaeln atniytvldk iklnakmmil irdkrfhydr  
601 nniavgades vvkeahrevi nsstegeillln idkdirkils gyiveiedte glkevindry  
661 dmlnisslrq dgktfidfkk yndklplyis npnykvnyva vtkentiinp sengdtstng  
721 ikkilifskk gyeig



**Fig. 3**

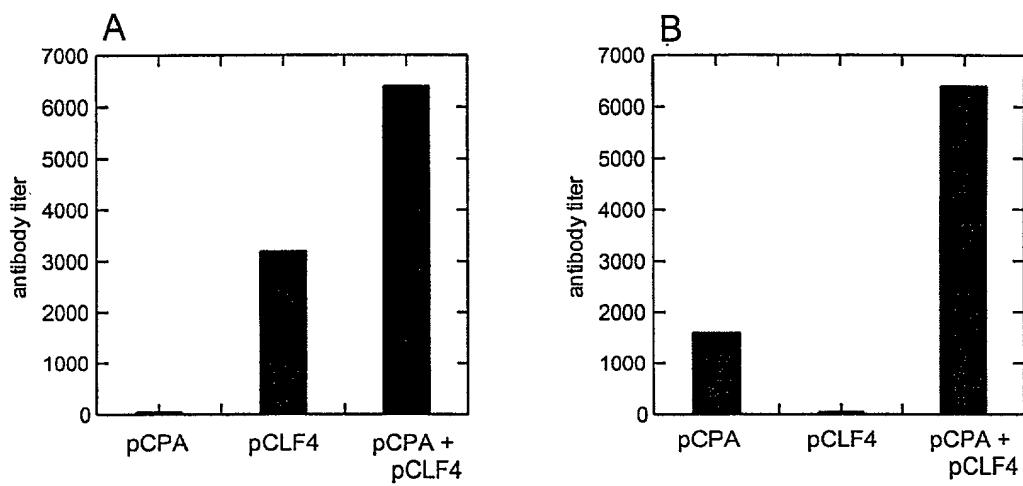


Fig. 4

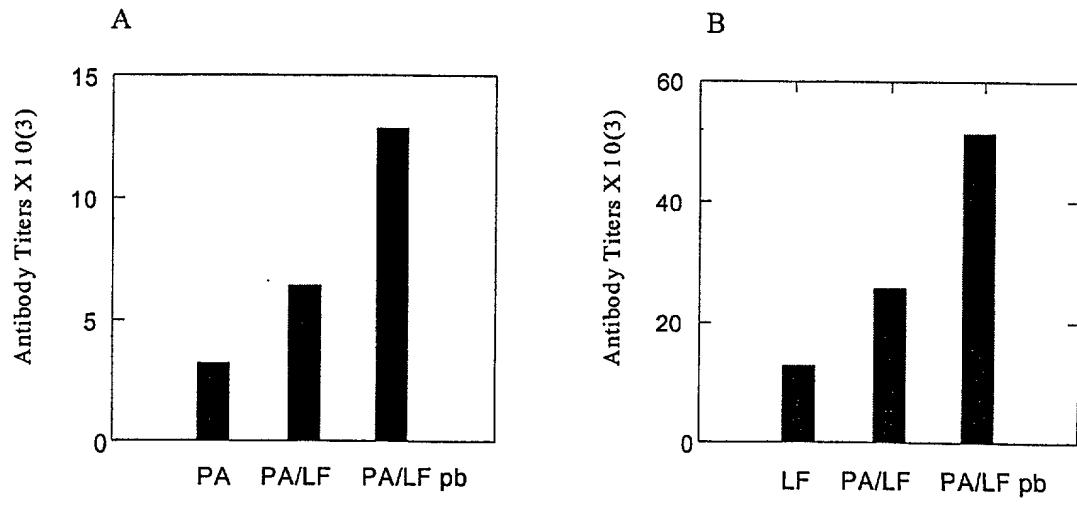


Fig. 5

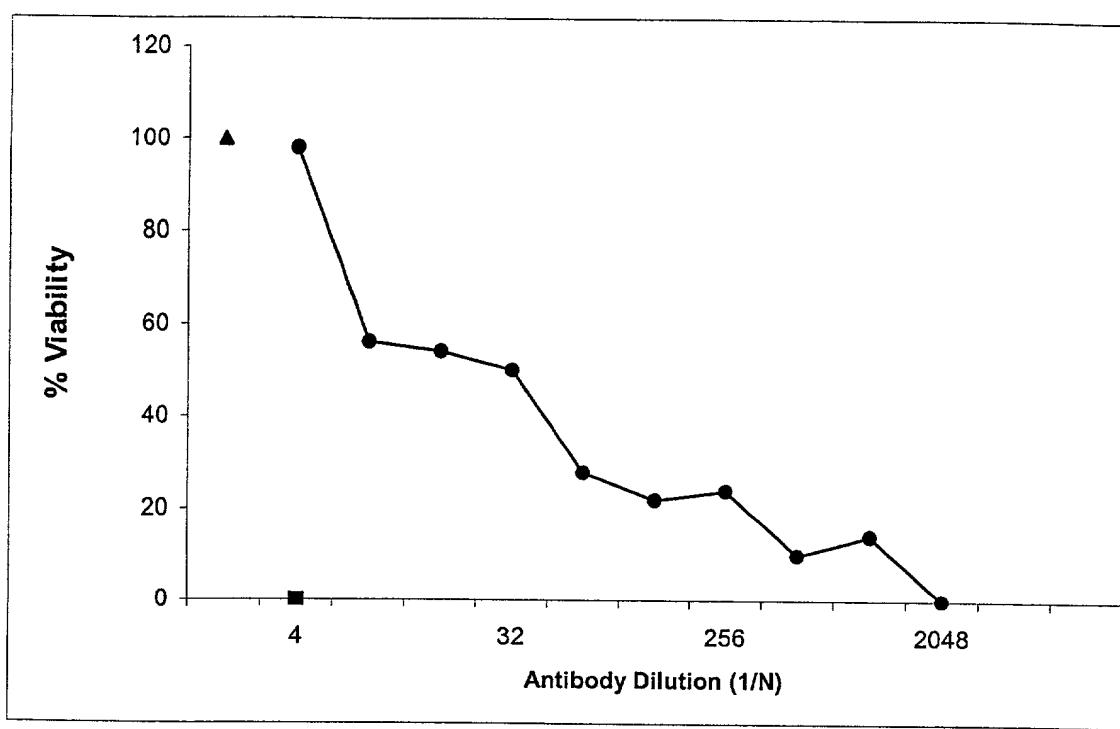


Fig. 6